

Claims

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1. A prepolymer composition for producing polyurethane insulating foams with fire-retardant properties from pressure tanks which consists of a prepolymer component with at least one PU prepolymer with a content of NCO groups of 4 to 20 wt% and usual additives, as well as a propellant component, characterized in that the prepolymer component is substantially halogen-free and has a content of 5 to 40 wt%, based on the prepolymer component, of softening phosphates and/or phosphonates with the formulae $O=P(OR)_3$ and $O=P(OR)_2R$, wherein R, identically or differently, means alkyl, aryl, alkyl aryl or arakyl with up to 10 C atoms.
 2. The prepolymer composition of claim 1, characterized by a PU prepolymer based on aliphatic and aromatic polyisocyanates polyester polyols.
 3. The prepolymer composition of claim 2, characterized in that the polyisocyanate is one based on hexamethylene-1,6diisocyanate, naphthalene-1,5-diisocyanate, tolylene diisocyanate, isophorone diisocyanate, diphenylmethane diisocyanate or dicyclohexylmethane diisocyanate.
 4. The prepolymer composition of claim 2 or 3, characterized in that the polyester polyols have a molecular weight of 1000 to 2000.
 5. The prepolymer composition of any of claims 2 to 4, characterized in that the polyester polyols are ones based on ethylene glycol or glycerine and aromatic or aliphatic, preferably native, polycarboxylic acids.
 6. The prepolymer composition of any of claims 2 to 5, characterized in that the polyester polyols are at least partly phosphorus-modified.
 7. The prepolymer composition of any of the above claims, characterized by a content of liquid polybutadiene of 0.01 to 2 wt%.
 8. The prepolymer composition of claim 7, characterized in that the liquid polybutadiene contains about 75% 1,4-cis

double bonds, about 24% 1,4-trans double bonds and about 1% vinyl double bonds, has a molecular weight, determined by vapor-pressure osmosis, of about 3000 and a viscosity at 20°C of about 3000 mPa.s.

9. The prepolymer composition of any of the above claims, characterized by a propellant content of 5 to 40 wt%.

10. The prepolymer composition of any of the above claims, characterized in that the propellant component contains propane, butane and/or dimethylether.

11. The prepolymer composition of any of the above claims, characterized in that the propellant component contains fluorocarbon, in particular R 125, R 134a, R 143 and/or R 152a.

12. The prepolymer composition of any of the above claims, characterized in that it additionally contains a flame-retardant additive which is free from chlorine and bromine.

13. The prepolymer composition of claim 12, characterized in that the flame-retardant additive is melamine, melamine cyanurate, dimelamine phosphate, melamine phosphate, cyanodiamide, dicyanodiamide, aluminum trihydrate, ammonium polyphosphate or a mixture thereof.

14. The prepolymer composition of any of the above claims, characterized by an initial service viscosity of the PU prepolymer at 20°C of 5000 to 20000 mPa.s.

15. The prepolymer composition of claim 11, characterized by an initial service viscosity of the PU prepolymer of 8000 to 15000 mPa.s.

16. Use of softening phosphates and phosphonates as defined in claim 1 for setting polyurethane insulating forms to be flame-retardant.

17. A pressure can for discharging 1C polyurethane insulating foams, filled with the prepolymer composition of any of claims 1 to 15.

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